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Categorical Interactions in an INTR-V + ADJECTIVE Construction Network

ITAGAKI Hiromasa

1. Introduction

Since the 1995 research by Goldberg, the idea of **construction** has emerged as the fundamental issue in Cognitive Linguistics. As Goldberg (1995: 1) stated, the notion of constructions in Generative Grammar has come under attack because it has claimed to be epiphenomenal, arising solely from the interaction of general principles. However, constructionists argue that constructions themselves are crucial to the description of language.

Over the last 20 years or more there has been a transition in views about construction. Although early studies such as Goldberg (1995) describe the various kinds of expressions as extremely abstract higher-level constructions, these descriptions run the risk of overgeneralization. Hence, the Cognitive Construction Grammar approach, such as from Croft (2003) or Iwata (2008), recently has introduced lower-level constructions as **verb-specific constructions** and **verb-class-specific constructions** instead of being higher-level constructions. For example, they argue that the English ditransitive construction should be represented as a lower-level construction such as [NP-GIVING.VERB-NP-NP], not [NP-V-NP-NP].

These opinions correspond well with the primary attitude in Cognitive Linguistics of a **usage-based model** for language structure. As mentioned by Kemmer and Barlow (2000: vii), a usage-based model describes the speaker's linguistic system as fundamentally grounded in usage events, so that it provides a "bottom-up" orientation. Therefore, most Cognitive Linguists postulate that lower-level schemas, expressing regularities of only limited scope, are more essential to language structure than higher-level schemas, representing the broadest generalizations (Langacker 1999: 118). Lower-level constructions as verb-specific or verb-class-specific constructions seem to be suitable for describing language structure.

Now, is it nonessential to set up higher-level constructions in order to illuminate language structure if lower-level constructions are essential? This paper will investigate *act* + ADJ expressions regarding a hierarchical relationship in constructional categories and show that both lower- and higher-level constructions are important to language phenomena.

2. *Act* + ADJ expressions as a construction

The English intransitive verb *act* occurs with an adverb and designates the behavior of the subject referent in a particular way, as in (1). It can sometimes take an adjectival complement, as shown in (2), and can still roughly express a similar meaning to *act* + adverb expressions. In (2b), for example, the woman hates men who behave to be perceived as cute. According to the description in the Oxford English Dictionary, as in (3), the usage appears for the first time in the beginning of the 19th century. Hereafter, expressions of this sort will be designated *act* + ADJ expressions and will be the main focus of this article.

- (1) He's been acting strangely.

- (2) a. He acts strange.
 b. “Please, sweetheart, hang on in there. It won’t be long now. You can do it. Please, for my sake,” he wheedled. She hated it when men started to act cute, pleading like little lost boys.
 (BNC: underlines mine.)

- (3) Observe the prudent; they in silence sit; ...they hazard nothing, nothing they assume, but know the useful art of acting dumb. (OED. Act, v. *Ann. Reg.* 558. 1812.)

The adjective occurring in those expressions turns out to be a complement when contrasted to secondary predicates, particularly depictives, which have been widely discussed in the literature (Williams 1980; Rothstein 2006 or others). Depictives are illustrated in (4).

- (4) a. John_i drove the car drunk_i. (Rothstein 2006: 210)
 b. Mary ate the carrots_i uncooked_i. (ibid.)

Depictives attribute a property to their subject “which holds of that subject all the time that the event denoted by the matrix verb is going on (Rothstein 2006: 210).” The adjective in depictives is an adjunct because the sentence in (5), where the adjective drops out, is not problematic. Moreover, Chomsky (1986) observes the syntactic constraint in which depictives do not undergo *wh*-movement as below;

- (5) a. John drove the car.
 b. Mary ate the carrots.
 (6) a. John [left the room] [(how) angry] (Chomsky 1986: 83)
 b. *how angry did John [leave the room] *t* (ibid.)

Unlike the depictives, an *act* + ADJ expression requires the adjective, so that if it drops out, the verb refers to a different meaning from the *act* + ADJ expression, as shown in the contrast examples (7). In addition, we can find examples like (8) that do undertake a *wh*-movement.

- (7) a. Joe died poor. = Joe died when he was poor. (Horton 1996: 327)
 b. Joe acted silly ≠ Joe acted when Joe was silly.
 (8) How foolish he acted, she will say. (COCA)

These brief observations above show that the *act* + ADJ expression should not be regarded as one of the depictives. Rather, the expression may well be considered a conventional phrasal unit, that is, construction. This leads to the suggestion that we should not analyze the verb or the adjective in the expression individually but do the expression itself as one chunk. Now, how do language users categorize them as a construction, and how do we represent these expressions as a construction? We can assume two sorts of construction: a lower-level construction represented by [NP-*act*-ADJ] and a higher-level construction by [NP-V_{intr}-ADJ]. The higher-level construction is described by Hayase (2009), so Section 3 will discuss whether the expression should be sanctioned by that higher-level schema or not.

3. Previous studies: [NP-V_{intr}-ADJ]

Hayase examined the following examples in (9) and argued that those syntactic configurations

functioned as a syntactic construction [NP-V_{intr}-ADJ]. Consider the sentences in (9).

- (9) a. The moon and stars shine bright. (Hayase 2009: 131)
b. The man who stood tall and proud. (ibid: 129)
c. {The snow/Clouds/dust} lay thick. (ibid: 137)

All of the examples in (9) can be syntactically associated with the construction; in (9a), for instance, the phrase *the moon and stars* takes a grammatical subject in [NP-V_{intr}-ADJ], and *shine* instantiates V_{intr} in the construction. Then, *bright* occurs in the ADJ position. Therefore, it may be reasonable that this construction schematizes those expressions in (9) from a syntactic perspective.

Then, what about the semantics on the construction? Hayase proposes that the functional characteristic of the construction is “**stativity of the situation.**”¹ According to Hayase (2009: 136), the notion on stativity of the situation is based on the interpretation for a stative and steady condition or property associated with an ongoing situation. The sentence (9a) conveys the steady property of the subject referent which carries out the non-dynamic event. In fact, the stativity of the situation mentioned above can be uniformly extracted from the examples in (9). For this reason, she argues that the abstract meaning from the examples naturally applies to the semantics on the construction.

Owing to the functional character of the construction, the construction prefers to take verbs of bodily posture, such as *stand*, *sit*, and *lie*. Those verbs typically depict the situation related to a bodily posture in a lower degree of dynamicity. As Hayase (2009: 19) points out, they are willing to appear in the construction since they have a lower degree of dynamicity, and thus they are well adapted to the stativity of the situation which the construction semantically requires.

Hayase offers further evidence that the construction designates the stativity of the situation. Let us see her additional diagnostics as exemplified in (10).

- (10) a. The fireworks exploded {*colorful / colorfully}. (Hayase 2009: 130)
b. You’ll emerge triumphant and glorious. (ibid.)

Both verbs occurring in (10) denote a punctual situation; (10a) designates an instantaneous explosion of the fireworks, while (10b) refers to an appearance of the subject referent. Hayase reveals that the syntactic sequence in (10a) is much more suitable for an adverbial adjunct rather than an adjectival one, whereas (10b) is acceptable even if it occurs with an adjective. According to her account, (10b) is well-formed because we could recognize for a while the existence of the grammatical subject even after the punctual situation described by the verb. In other words, the subject in (10b) will be perceived after the emergence, and then the situation after the emergent event can be designated by the adjectival phrase *triumphant and glorious* correlating with the stativity of the situation. Therefore, it fits in with the constructional meaning as the stativity of the situation, and will be acceptable. Conversely, we cannot accept the sentence (10) since the subject referent *fireworks* in (10a) cannot be recognized after the explosion, and then the meaning of

¹ Hayase describes the term in Japanese, as in “Jitai no joutaisei (事態の状態性).” This article refers to the term as the “stativity of the situation” in English for convenience.

explode is no longer in character with the constructional meaning. The contrast will also support her argument that the syntactic configuration of [NP-V_{intr}-ADJ] corresponds to the particular meaning as a conventional construction.

4. Act + ADJ expressions as a lower-level construction

4.1. Problems

So far, Hayase's description seems to be well adapted to accounting for the semantics of [NP-V_{intr}-ADJ]. *Act* + ADJ expressions, which we would like to examine here, appear to inherit a schematic form from the construction [NP-V_{intr}-ADJ]. If *act* + ADJ expressions are sanctioned by this construction, then they would also inherit the constructional meaning from the construction.

However, we will show in this construction that this assumption is incorrect. In other words, *act* + ADJ expressions do not inhere in the higher-level construction, but we should construe them as the lower-level construction, with them autonomous in the higher-level construction [NP-V_{intr}-ADJ]. Our argument is indicated by the difference between the higher-level construction and *act* + ADJ expressions. Consider the following examples in (11).

- (11) a. ... you don't want your father asking why you were acting daft.
 b. You've been acting weird ever since he started talking to me.
 c. Work isn't the operative word. He's acting busy because Alejandro's here. (all from BNC)

The sentences underlined in (11) portray a dynamic event performed by the subject referent, contrary to the stativity of the situation. For instance, the grammatical subject in (11c) takes an intentional action for pretending to be busy; obviously the verb *act* is not stative. Hayase notices their exceptional usage and presents it as a peripheral usage extended from the construction. As stated by Hayase, because of its "peripherality," that usage is likely to occur with an infinitive, participle, or imperative, which represents an a-temporal event, rather than with a temporal past tense, so as to cause the usage to fit with the stative meaning of the construction [NP-V_{intr}-ADJ]. This is illustrated in (12) and (13), as follows. As exemplified in (13b), you may think that the *act* + ADJ expressions are unwelcome to appear in the past tense.

- (12) a. Time to act daffy! (Hayase 2009: 148)
 b. Think healthy, act healthy. (ibid)
 (13) a. ?? My mother thought healthy. (Hayase 2009: 149)
 b. ?? / * She acted beautiful. (ibid.)

Although Hayase's analysis looks to successfully explain the *act* + ADJ expressions, it fails to show the following examples, which we can find in the BNC (British National Corpus). The expressions in (14) obviously occur in the past tense and signify the dynamic action. Her argument that *act* + ADJ expressions are peripherally sanctioned by the construction [NP-V_{intr}-ADJ] cannot account for the reason why the expressions are amenable in spite of the unacceptability of the sentence (13b).

- (14) a. He came in so unexpectedly I probably acted dumb at first.

b. I acted very cool and saw my chance.

(all from BNC)

4.2. Proposal

What we will propose here is that *act* + ADJ expressions organize their independent syntactic unit whereby they constitute a verb-specific construction [NP-*act*-ADJ], which we will call the ***act* + ADJ construction**. This construction excludes (13b) simply because the semantics of the construction is difficult to suit for the meaning of (13b), regardless of the meaning of the higher-level construction [NP-V_{intr}-ADJ]. The *act* + ADJ construction commonly signifies the pseudo-property of the subject referent which is presumed by means of her/his bodily action. Namely, that pseudo-property must be conceptually (or encyclopedically) related with the action. Let us look at (15):

(15) She acted {sick/busy/intelligent}.

This sentence in (15) is acceptable because the property represented by the adjectival complement may be conceptually easy to correlate to her bodily activity. If she acts sick, we can imagine her taking a bodily movement such as coughing. If she acts busy, we can also readily imagine her working. Finally, if she acts intelligent, we can again imagine her taking a bodily action like sliding her glasses up her nose. Contrary to (15), (13b) would not enable us to evoke images of this sort: we would not understand her bodily movement which forces us to evoke her beautiful character. Therefore, (13b) is hardly acceptable whereas the sentence in (15) is regarded as well-formed.

This construction which we have proposed is supported by Rothstein's analysis (2004), although it adopts a formal semantic approach. On some data about the *act* + ADJ expressions, she formalizes the expressions as follows:

(16) $act_v: \lambda P \lambda e. ACT(e) \cap Th(e) = \cap Ex(e) = x$
 condition: $\forall e \forall P \forall x \forall w [ACT(e) \cap Th(e) = P \cap Ex(e) = x \cap REALISE(e, w)$
 $\rightarrow \forall v \in ACT_{x, w}: \exists e' [\sim P(e') \cap Arg_1(e') = x \cap REALISE(e', v)]]$ (Rothstein 2004: 162)

As noted by Rothstein (2004: 161-163), (2a) in the *act* + ADJ expressions, for example, does not mean that *he* acted and was strange. Rather, she argues that this is a sentence headed by a modal verb which asserts that he had the strange property in the set of worlds picked out by *act*, namely, the world where facts reflect how the individual acts. According to her analysis, the meaning postulate says that if *e* is an actual event of *x*'s acting *P* in the *w*(orld), then in all of those worlds in which what *x* acts in, *w* is actually the case *x* will have the $\sim P$ property. This semantic property will explain why sentences like (13) are ill-formed; the world in which what *x* acts in *w* is actually the case is not related to the $\sim P$ property.

The acceptability of the *act* + ADJ construction is decided by the easiness of the conceptual relativity between the property designated by the adjectival complement and the bodily action by the verb *act*. The explanation leads to the next assumption that even if the sentence may not probably instantiate an *act* + ADJ construction like (15), we can ameliorate the grammaticality of the sentence by improvement of that conceptual relativity by virtue of supplying some context. This assumption is borne out. Let us give

you a contrast, as in (17).

- (17) a. ?? Cathy {acted/always acts} tall.
 b. Cathy acted tall by stretching up on tiptoe.

Both sentences exemplified in (17) contain the adjectival complement *tall*. Notice that (17a) is inclined to be unacceptable despite the occurrence with an a-temporal present tense. Again, Hayase's analysis does not seem to be appropriate since the modification of the tense cannot improve the grammaticality of the *act* + ADJ construction. As shown in (17b), however, the grammaticality could be improved by compensating for the context in which the action concerning the height of the subject referent is to stretch up. The contrast suggests that by means of evoking the relativity between the property and the activity, we can take the grammatical amelioration of the *act* + ADJ expressions which do not originally follow the intrinsic meaning of the *act* + ADJ construction. In effect, acceptable are the following examples (18b, c), which receives a habitual reading, in spite of occurring with the adjectival complement *beautiful*. Furthermore, we can find a few past tense examples like (19) that designate the actual event. The sentence is interpretable since we can relate the beauty of the subject referent with what the subject *she* did.

- (18) a. ?? / * She acted beautiful. = (13b)
 b. She always acts beautiful.
 c. Not that Jason always acted beautiful. But who could blame him with everyone always whispering about him? (Sarah Rainone. 2009. *Love Will Tear Us Apart*.)
- (19) Caroline wore a sweater over her bathing suit. A big hat, Peter remembered, dark sunglasses. He couldn't really see her face, concealed by the wide straw brim, the dark glamorous lenses. Still, he had a sense of her: smiling, charming. Beautiful. She acted beautiful.
 (Roxana Robinson. 1999. *This is My Daughter*.)

The consideration discussed above supports that the *act* + ADJ construction functions as construction, and again indirectly supports a lower-level, that is, verb-specific construction. Now, we can portray the constructional schema of the *act* + ADJ construction, as shown in (20).

(20) **ACT + ADJ CONSTRUCTION**

- a. Syntax : [NP-*act*-ADJ]
 b. Semantics: NP takes a bodily motion in the way as if NP has an ADJ property.

One may think that the schema denoted in (20) is not different from the condition mentioned by Rothstein. Certainly, the schema just represents the conventional unit involving the verb *act*. However, this schema that adopts a Construction Grammar approach is deeply fascinating when the schema creates a further extended construction network. Cognitive Construction Grammar posits that constructions create their categorical network in terms of categorical extension and schematization. As Langacker (1999: 102) mentioned in Figure 1, extension tends to be accompanied by schematization and the outward growth of a network by extensions from a prototype tends to induce its upward growth via the extraction of higher-level schemas. Figure 1 shows that a higher order schema (A') is extracted from a conventional unit [A], and

then the schema (A') sanctions an novel instance (B). At the same times, the usage event (B) is extended from [A]. The cognitive ability enables us to create a novel usage extended from a conventional unit.

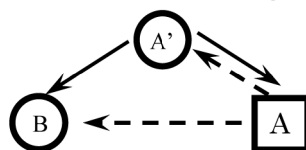


Figure 1 (Langacker 1999: 102)

This construction network will also be observed in the *act* + ADJ construction. The verb *act* in the construction is usually referred to in some English dictionaries as pretending:

- (21) a. [with complement] behave so as to appear to be; pretend to be
(Oxford Dictionary of English; *act*. v.)
- b. to pretend to have feelings, qualities etc. that are different from your true ones.
(Longman Dictionary of Contemporary English; *act*. v.)

If the verb *act* appearing in the *act* + ADJ construction were truly the same as *pretend* or something like that, verbs like *pretend* could occur in the construction. Nevertheless, verbs similar to *pretend* cannot appear in the syntactic configuration, as shown in (22). Notice that there are some examples which express the equivalent meaning of the *act* + ADJ construction like (23) to (24). In (24), the verbs *play* and *behave* are followed by the adjectival complement and convey Joe's presumable property. Interestingly, the OED says that the verb *play* appears for the first time in the beginning of the 19th century, which is almost the same time as the *act* + ADJ construction appeared, while *behave* was not described in this dictionary. Sentences like (24b) are a new usage of *behave*.

- (22) a. Joe acted {sick/busy/intelligent}.
b. *Joe {pretended/faked/lie} {sick/busy/intelligent}.
- (23) a. She tried to play dumb. (BNC)
b. You will behave proper when we get there, won't you? (BNC)
- (24) a. Joe played {sick/busy/intelligent}
b. Joe behaved {sick/busy/intelligent}.

Hayase's analysis, which offers the higher-level construction [NP-V_{intr}-ADJ] for an intransitive verb occurring with the adjectival complement, could not explain why verbs like *pretend* or *lie* cannot appear in this construction whereas verbs like *play* or *behave* can. The reason for the differences also could not be explained even in the conditions proposed by Rothstein.

However, it can be elucidated by the assumption that the *act* + ADJ construction creates a dynamic construction network as a lower-level construction, by which it extends a new instance for verbs similar to *act* such as *play* or *behave*. The verb *act* originally profiles the subject, in particular, bodily actions of her/him. In that respect, it is nearly close to verbs like *play* or *behave*. Conversely, the meaning of verbs like *pretend* do not necessarily concentrate on bodily actions of the subject. Rather, it emphasizes what s/he says or mentions about cheating someone. Therefore, because verbs like *behave* are similar in meaning to

the verb *act*, they have enough ground for analogical extension from the *act* + ADJ construction, to build a new constructional category; that is, the verb-class-specific construction [NP-BEHAVIOR. VERB-ADJ]. On the other hand, verbs like *pretend* are semantically different from *act*, and hence they cannot inherit from the *act* + ADJ construction. This explanation can be simply represented by a diagram like Figure 2. The network includes the lowest construction that corresponds to the *act* + ADJ construction as a conventional unit. The solid arrow in Figure 2 represents schematization from this construction to the verb-class-specific construction [NP-BEHAVIOR.VERB-ADJ]. The dotted arrow shows the categorical extension to the novel usage event for sentences like (23) or (24). Anyway, the assumption in the construction network can satisfy the explanation for the contrasting acceptability from (22) to (24).

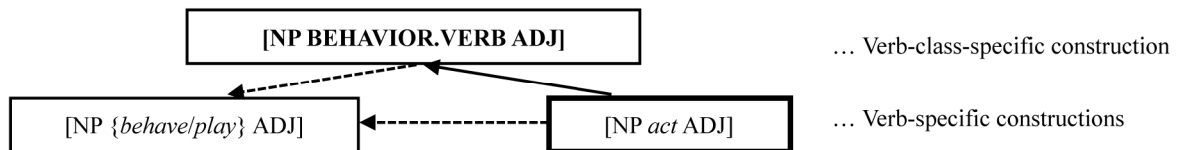


Figure 2: A categorical network of the *act* + ADJ construction.

The previous studies seem to provide comprehensive accounts for the semantics of V + ADJ expressions. Hayase describes the semantics of [NP-V_{intr}-ADJ], whereas Rothstein establishes the semantic condition for the usage of the verb *act*. However, these explanations cannot identify the *act* + ADJ construction nor the extension from the construction. This paper proposes the lower-level construction, that is, [NP-*act*-ADJ] as a verb-specific construction. The verb-specific construction does not only allow us to understand the meaning of *act* + ADJ expressions, but also to grasp the extension for the verbs profiling bodily actions like *behave* by virtue of the Construction Grammar's assumption of the verb-class-specific construction [NP-BEHAVIOR.VERB-ADJ]. This suggests that to seize various kinds of linguistic expressions, it is useful to set up a lower-level construction rather than a schematic construction.

5. Semantic changes: *Act* + ADJ by the higher-level construction.

In Section 4, *act* + ADJ expressions should be demonstrated by the verb-specific construction, not by the schematic construction. This leads to the suggestion that it is important to focus on lower-level constructions. When you get down to the analysis, you may think that we need not constitute a higher-level construction so long as we could hypothesize lower-level constructions for language expressions.

However, this section illustrates that the higher-level construction is also important for language categories by observing that semantic changes of the *act* + ADJ construction are going toward the semantics of [NP-V_{intr}-ADJ]. The construction [NP-V_{intr}-ADJ] contributes a prediction of a diachronic direction on language changes of the *act* + ADJ construction, which the lower-level construction cannot estimate.

As mentioned in Section 2, *act* + ADJ expressions appear for the first time in the beginning of the 19th century. The grammatical subject in these expressions stands for the agent of the event designated by the verb phrase, as represented in (25).

- (25) a. The people are no hypocrites, and never act wrong ... (COHA 1850)

- b. ... he lit out for home, slapping himself on the legs and on the arms and on the back, and he acted crazy. (COHA 1883)

The meaning of the *act* + ADJ construction has been changed gradually, whereby after the end of the 20th century the subject does not always play an agentive role. The subject in (26) does not intend to display the bodily activity denoted by the verb phrase. That is, the subject in (26a), for example, does not deliberately pretend to have a young property, because (26a) expresses her bodily activity which seems to be young just like her appearance. Like (26a), the subject in (26b) *the pet pig* is not a cheater; it is an animal which is irrelevant to being intentional. Interestingly, the sentence occurs with the *to* prepositional phrase which stands for the experiencer for the judgement of the cute property of the subject referent.

- (26) a. She looks young for her age and she acts young. People think of her as younger. When people know she's a grandmother they're amazed. (BNC 1985-1993)
- b. The pet pig, named Daidai, was a present from Wang's daughter. "It was a mini-pig at first, and now it has gotten big after I raised it for many years. It eats a lot of food every day and always acts cute to us," said Wang. (*People's Daily Online* 2016)

The characteristics in which the *act* + ADJ construction comes to take place with a *to* prepositional phrase allow us to associate the construction with the Copulative Perception Verb Construction (hereafter CPVC). The CPVC, which takes certain perception verbs such as *look* or *sound*, is one of the prototypical usages sanctioned by the construction [NP-V_{intr}-ADJ]. It is widely accepted in the literature that the CPVC does not take the perceiver (let alone the agent) but does take the stimulus as its subject and expresses the perceiver in a *to* prepositional phrase (Taniguchi 1997; Gisborne 2010 or others), as shown in the following sentences from (27) to (28). Of course, the semantics of the CPVC is characterized by the stativity of the situation, which is the meaning of [NP-V_{intr}-ADJ].

- (27) a. Peter looks stupid. (Gisborne 2010: 239)
- b. The custard feels lumpy. (ibid.)
- (28) a. Jane sounds nice to Peter. (Gisborne 2010: 239)
- b. Peter looks drunk to his boss. (ibid: 243)

The semantic changes of the *act* + ADJ construction, in which it comes to take the theme as its subject and the experiencer in the prepositional phrase, will induce us to assume that the *act* + ADJ construction has moved toward and been possibly subsumed under the CPVC category. In fact, we can find absorbing examples where the *act* + ADJ construction coexists with the CPVC, as shown in sentences like (29). These examples show also that the *act* + ADJ construction acquires a novel meaning in which the construction does not necessarily take the agent as its subject.

- (29) a. To create simulations that feel and act real requires software with sophisticated 3-D physics modeling. (COCA 1998)
- b. Virden looked, sounded, and acted normal enough. (COCA 2011)

It may not be concluded that the *act* + ADJ construction is now subsumed under the higher-level

construction category only by these data. However, the *act* + ADJ construction is going toward acquisition of the new meaning of the construction [NP-V_{intr}-ADJ]. This means that although the *act* + ADJ construction was originally irrelevant to the abstract schema as discussed in Section 4, it is now gradually entering the conventional [NP-V_{intr}-ADJ] category. If the construction [NP-V_{intr}-ADJ] brings us a prediction of a diachronic direction for language changes of the *act* + ADJ construction, the higher-level construction will be also important for language categories.

6. Conclusion

This paper has presented the functions of constructional categories in hierarchical relationships by taking up the *act* + ADJ construction. Recent studies on the Cognitive Construction Grammar approach tend to emphasize a lower-level construction. However, this study shows that while recognizing the importance of the lower-level construction, the higher and abstract schema is not unnecessary for language phenomena. That is, this research argues that both higher and lower syntactic constructional schemas are of importance because they may constitute a hierarchical category by virtue of the interaction with each other, and thus contribute to linguistic analysis.

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